

SEQUENCE LISTING

<110> The University of Queensland
National Institute of Biological Standards and Control

<120> Novel anti-fibrinolytic agents

<130> Textilins

<140> PCT/AU99/0XXX

<141> 1999-05-10

<150> AU PP3450

<151> 1999-05-11

<160> 44

<170> PatentIn Ver. 2.0

<210> 1

<211> 180

<212> DNA

<213> Pseudonaja textilis

<220>

<221> CDS

<222> (1)..(180)

<220>

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Lys	Asp	Arg	Pro	Asp	Phe	Cys	Glu	Leu	Pro	Ala	Asp	Thr	Gly	Pro	Cys	
1				5					10					15		

aga	gtc	aga	ttc	cca	tcc	ttc	tac	tac	aac	cca	gat	gaa	aaa	aag	tgc	96
Arg	Val	Arg	Phe	Pro	Ser	Phe	Tyr	Tyr	Asn	Pro	Asp	Glu	Lys	Lys	Cys	
			20					25					30			

cta	gag	ttt	att	tat	ggt	gga	tgc	gaa	ggg	aat	gct	aac	aat	ttt	atc	144
Leu	Glu	Phe	Ile	Tyr	Gly	Gly	Cys	Glu	Gly	Asn	Ala	Asn	Asn	Phe	Ile	
		35					40					45				

acc	aaa	gag	gaa	tgc	gaa	agc	acc	tgt	gct	gcc	tga					180
Thr	Lys	Glu	Glu	Cys	Glu	Ser	Thr	Cys	Ala	Ala						
	50					55					60					

<210> 2

<211> 59

<212> PRT

<213> Pseudonaja textilis

<400> 2

Lys Asp Arg Pro Asp Phe Cys Glu Leu Pro Ala Asp Thr Gly Pro Cys
 1 5 10 15
 Arg Val Arg Phe Pro Ser Phe Tyr Tyr Asn Pro Asp Glu Lys Lys Cys
 20 25 30
 Leu Glu Phe Ile Tyr Gly Gly Cys Glu Gly Asn Ala Asn Asn Phe Ile
 35 40 45
 Thr Lys Glu Glu Cys Glu Ser Thr Cys Ala Ala
 50 55

<210> 3
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 Lys Asp Arg Pro Glu Leu Cys Glu Leu Pro Pro Asp Thr Gly Pro Cys
 1 5 10 15
 aga gtc aga ttc cca tcc ttc tac tac aac cca gat gaa caa aaa tgc 96
 Arg Val Arg Phe Pro Ser Phe Tyr Tyr Asn Pro Asp Glu Gln Lys Cys
 20 25 30
 cta gag ttt att tat ggt gga tgc gaa ggg aat gct aac aat ttt atc 144
 Leu Glu Phe Ile Tyr Gly Gly Cys Glu Gly Asn Ala Asn Asn Phe Ile
 35 40 45
 acc aaa gag gaa tgc gaa agc acc tgt gct gcc tga 180
 Thr Lys Glu Glu Cys Glu Ser Thr Cys Ala Ala
 50 55 60

<210> 4
 <211> 59
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 <213> Pseudonaja textilis

<400> 4
 Lys Asp Arg Pro Glu Leu Cys Glu Leu Pro Pro Asp Thr Gly Pro Cys
 1 5 10 15
 Arg Val Arg Phe Pro Ser Phe Tyr Tyr Asn Pro Asp Glu Gln Lys Cys
 20 25 30
 Leu Glu Phe Ile Tyr Gly Gly Cys Glu Gly Asn Ala Asn Asn Phe Ile
 35 40 45

Thr Lys Glu Glu Cys Glu Ser Thr Cys Ala Ala
50 55

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<400> 5
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Lys Asp Arg Pro Asn Phe Cys Lys Leu Pro Ala Glu Thr Gly Arg Cys
1 5 10 15
aat gcc aaa atc cca cgc ttc tac tac aac cca cgt caa cat caa tgc 96
Asn Ala Lys Ile Pro Arg Phe Tyr Tyr Asn Pro Arg Gln His Gln Cys
20 25 30
ata gag ttt ctc tat ggt gga tgc gga ggg aat gct aac aat ttt aag 144
Ile Glu Phe Leu Tyr Gly Gly Cys Gly Gly Asn Ala Asn Asn Phe Lys
35 40 45
acc att aag gaa tgc gaa agc acc tgt gct gca tga 180
Thr Ile Lys Glu Cys Glu Ser Thr Cys Ala Ala
50 55 60

<210> 6
<211> 59
<212> PRT
<213> *Pseudonaja textilis*

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Asn Ala Lys Ile Pro Arg Phe Tyr Tyr Asn Pro Arg Gln His Gln Cys
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35 40 45
Thr Ile Lys Glu Cys Glu Ser Thr Cys Ala Ala
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 1 5 10 15
 aaa ggc aac gtc cca cgc ttc tac tac aac gca gat cat cat caa tgc 96
 Lys Gly Asn Val Pro Arg Phe Tyr Tyr Asn Ala Asp His His Gln Cys
 20 25 30
 cta aaa ttt att tat ggt gga tgt gga ggg aat gct aac aat ttt aag 144
 Leu Lys Phe Ile Tyr Gly Gly Cys Gly Gly Asn Ala Asn Asn Phe Lys
 35 40 45
 acc ata gag gaa ggc aaa agc acc tgt gct gcc tga 180
 Thr Ile Glu Glu Gly Lys Ser Thr Cys Ala Ala
 50 55 60

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 <212> PRT
 <213> Pseudonaja textilis

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 Lys Asp His Pro Lys Phe Cys Glu Leu Pro Ala Glu Thr Gly Ser Cys
 1 5 10 15
 Lys Gly Asn Val Pro Arg Phe Tyr Tyr Asn Ala Asp His His Gln Cys
 20 25 30
 Leu Lys Phe Ile Tyr Gly Gly Cys Gly Gly Asn Ala Asn Asn Phe Lys
 35 40 45
 Thr Ile Glu Glu Gly Lys Ser Thr Cys Ala Ala
 50 55

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Lys Asp Arg Pro Lys Phe Cys Glu Leu Leu Pro Asp Thr Gly Ser Cys
  1                      5                      10                      15

gaa gac ttt acc gga gcc ttc cac tac agc aca cgt gat cgt gaa tgc      96
Glu Asp Phe Thr Gly Ala Phe His Tyr Ser Thr Arg Asp Arg Glu Cys
                20                      25                      30

ata gag ttt att tat ggt gga tgc gga ggg aat gct aac aat ttt atc      144
Ile Glu Phe Ile Tyr Gly Gly Cys Gly Gly Asn Ala Asn Asn Phe Ile
                35                      40                      45

acc aaa gag gaa tgc gaa agc acc tgt gct gcc tga                        180
Thr Lys Glu Glu Cys Glu Ser Thr Cys Ala Ala
      50                      55                      60

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<210> 10
<211> 59
<212> PRT
<213> Pseudonaja textilis

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<400> 10
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  1                      5                      10                      15

Glu Asp Phe Thr Gly Ala Phe His Tyr Ser Thr Arg Asp Arg Glu Cys
                20                      25                      30

Ile Glu Phe Ile Tyr Gly Gly Cys Gly Gly Asn Ala Asn Asn Phe Ile
                35                      40                      45

Thr Lys Glu Glu Cys Glu Ser Thr Cys Ala Ala
      50                      55

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<210> 11
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<400> 11
aag gac cgt cca aag ttc tgt gaa ctg cct gct gac atc gga cca tgg      48
Lys Asp Arg Pro Lys Phe Cys Glu Leu Pro Ala Asp Ile Gly Pro Trp
  1                      5                      10                      15

gat gac ttt acc gga gcc ttc cac tac agc cca cgt gaa cat gaa tgc      96
Asp Asp Phe Thr Gly Ala Phe His Tyr Ser Pro Arg Glu His Glu Cys
                20                      25                      30

ata gag ttt att tat ggt gga tgc aaa ggg aat gct aac aac ttt aat      144

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<400> 14
Met Ser Ser Gly Gly Leu Leu Leu Leu Leu Gly Leu Leu Thr Leu Trp
1 5 10 15

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<210> 15
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<212> DNA
<213> *Pseudonaja textilis*

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Met Ser Ser Gly Gly Leu Leu Leu Leu Leu Gly Leu Leu Thr Leu Trp
-20 -15 -10

gag gtg ctg acc ccc gtc tcc agc aag gac cgt ccg gat ttc tgt gaa 96
Glu Val Leu Thr Pro Val Ser Ser Lys Asp Arg Pro Asp Phe Cys Glu
-5 -1 1 5

ctg cct gct gac acc gga cca tgt aga gtc aga ttc cca tcc ttc tac 144
Leu Pro Ala Asp Thr Gly Pro Cys Arg Val Arg Phe Pro Ser Phe Tyr
10 15 20

tac aac cca gat gaa aaa aag tgc cta gag ttt att tat ggt gga tgc 192
Tyr Asn Pro Asp Glu Lys Lys Cys Leu Glu Phe Ile Tyr Gly Gly Cys
25 30 35 40

gaa ggg aat gct aac aat ttt atc acc aaa gag gaa tgc gaa agc acc 240
Glu Gly Asn Ala Asn Asn Phe Ile Thr Lys Glu Glu Cys Glu Ser Thr
45 50 55

tgt gct gcc tga 252
Cys Ala Ala
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<210> 16
<211> 83
<212> PRT
<213> *Pseudonaja textilis*

<400> 16
Met Ser Ser Gly Gly Leu Leu Leu Leu Leu Gly Leu Leu Thr Leu Trp
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20 25 30

Leu Pro Ala Asp Thr Gly Pro Cys Arg Val Arg Phe Pro Ser Phe Tyr
 35 40 45
 Tyr Asn Pro Asp Glu Lys Lys Cys Leu Glu Phe Ile Tyr Gly Gly Cys
 50 55 60
 Glu Gly Asn Ala Asn Asn Phe Ile Thr Lys Glu Glu Cys Glu Ser Thr
 65 70 75 80
 Cys Ala Ala

<210> 17
 <211> 252
 <212> DNA
 <213> Pseudonaja textilis

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<400> 17
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 Met Ser Ser Gly Gly Leu Leu Leu Leu Leu Gly Leu Leu Thr Leu Trp
 -20 -15 -10
 gag gtg ctg acc ccc gtc tcc agc aag gac cgt cca gag ttg tgt gaa 96
 Glu Val Leu Thr Pro Val Ser Ser Lys Asp Arg Pro Glu Leu Cys Glu
 -5 -1 1 5
 ctg cct cct gac acc gga cca tgt aga gtc aga ttc cca tcc ttc tac 144
 Leu Pro Pro Asp Thr Gly Pro Cys Arg Val Arg Phe Pro Ser Phe Tyr
 10 15 20
 tac aac cca gat gaa caa aaa tgc cta gag ttt att tat ggt gga tgc 192
 Tyr Asn Pro Asp Glu Gln Lys Cys Leu Glu Phe Ile Tyr Gly Gly Cys
 25 30 35 40
 gaa ggg aat gct aac aat ttt atc acc aaa gag gaa tgc gaa agc acc 240
 Glu Gly Asn Ala Asn Asn Phe Ile Thr Lys Glu Glu Cys Glu Ser Thr
 45 50 55
 tgt gct gcc tga 252
 Cys Ala Ala
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<210> 18
 <211> 83
 <212> PRT
 <213> Pseudonaja textilis

<400> 18

Met Ser Ser Gly Gly Leu Leu Leu Leu Leu Gly Leu Leu Thr Leu Trp
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Glu Val Leu Thr Pro Val Ser Ser Lys Asp Arg Pro Glu Leu Cys Glu
 20 25 30

Leu Pro Pro Asp Thr Gly Pro Cys Arg Val Arg Phe Pro Ser Phe Tyr
 35 40 45

Tyr Asn Pro Asp Glu Gln Lys Cys Leu Glu Phe Ile Tyr Gly Gly Cys
 50 55 60

Glu Gly Asn Ala Asn Asn Phe Ile Thr Lys Glu Cys Glu Ser Thr
 65 70 75 80

Cys Ala Ala

<210> 19

<211> 252

<212> DNA

<213> Pseudonaja textilis

<220>

<221> CDS

<222> (1)..(252)

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<221> sig_peptide

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<222> (73)..(252)

<400> 19

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 Met Ser Ser Gly Gly Leu Leu Leu Leu Leu Gly Leu Leu Thr Leu Trp
 -20 -15 -10

gag gtg ctg acc ccc gtc tcc agc aag gac cgt cca aat ttc tgt aaa 96
 Glu Val Leu Thr Pro Val Ser Ser Lys Asp Arg Pro Asn Phe Cys Lys
 -5 -1 1 5

ctg cct gct gaa acc gga cga tgt aat gcc aaa atc cca cgc ttc tac 144
 Leu Pro Ala Glu Thr Gly Arg Cys Asn Ala Lys Ile Pro Arg Phe Tyr
 10 15 20

tac aac cca cgt caa cat caa tgc ata gag ttt ctc tat ggt gga tgc 192
 Tyr Asn Pro Arg Gln His Gln Cys Ile Glu Phe Leu Tyr Gly Gly Cys
 25 30 35 40

gga ggg aat gct aac aat ttt aag acc att aag gaa tgc gaa agc acc 240
 Gly Gly Asn Ala Asn Asn Phe Lys Thr Ile Lys Glu Cys Glu Ser Thr
 45 50 55

tgt gct gca tga 252

x

Cys Ala Ala

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<210> 20
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<212> PRT
<213> Pseudonaja textilis

<400> 20

Met Ser Ser Gly Gly Leu Leu Leu Leu Leu Gly Leu Leu Thr Leu Trp
1 5 10 15

Glu Val Leu Thr Pro Val Ser Ser Lys Asp Arg Pro Asn Phe Cys Lys
20 25 30

Leu Pro Ala Glu Thr Gly Arg Cys Asn Ala Lys Ile Pro Arg Phe Tyr
35 40 45

Tyr Asn Pro Arg Gln His Gln Cys Ile Glu Phe Leu Tyr Gly Gly Cys
50 55 60

Gly Gly Asn Ala Asn Asn Phe Lys Thr Ile Lys Glu Cys Glu Ser Thr
65 70 75 80

Cys Ala Ala

<210> 21
<211> 252
<212> DNA
<213> Pseudonaja textilis

<220>
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<400> 21

atg tct tct gga ggt ctt ctt ctc ctg ctg gga ctc ctc acc ctc tgg 48
Met Ser Ser Gly Gly Leu Leu Leu Leu Leu Gly Leu Leu Thr Leu Trp
-20 -15 -10

gag gtg ctg acc ccc gtc tcc agc aag gac cat cca aaa ttc tgt gaa 96
Glu Val Leu Thr Pro Val Ser Ser Lys Asp His Pro Lys Phe Cys Glu
-5 -1 1 5

ctc cct gct gaa acc gga tca tgt aaa ggc aac gtc cca cgc ttc tac 144
Leu Pro Ala Glu Thr Gly Ser Cys Lys Gly Asn Val Pro Arg Phe Tyr
10 15 20

tac aac gca gat cat cat caa tgc cta aaa ttt att tat ggt gga tgt 192

Tyr Asn Ala Asp His His Gln Cys Leu Lys Phe Ile Tyr Gly Gly Cys
 25 30 35 40

gga ggg aat gct aac aat ttt aag acc ata gag gaa ggc aaa agc acc 240
 Gly Gly Asn Ala Asn Asn Phe Lys Thr Ile Glu Glu Gly Lys Ser Thr
 45 50 55

tgt gct gcc tga 252
 Cys Ala Ala
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<210> 22
 <211> 83
 <212> PRT
 <213> Pseudonaja textilis

<400> 22
 Met Ser Ser Gly Gly Leu Leu Leu Leu Leu Gly Leu Leu Thr Leu Trp
 1 5 10 15

Glu Val Leu Thr Pro Val Ser Ser Lys Asp His Pro Lys Phe Cys Glu
 20 25 30

Leu Pro Ala Glu Thr Gly Ser Cys Lys Gly Asn Val Pro Arg Phe Tyr
 35 40 45

Tyr Asn Ala Asp His His Gln Cys Leu Lys Phe Ile Tyr Gly Gly Cys
 50 55 60

Gly Gly Asn Ala Asn Asn Phe Lys Thr Ile Glu Glu Gly Lys Ser Thr
 65 70 75 80

Cys Ala Ala

<210> 23
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<220>
 <221> mat_peptide
 <222> (73)..(252)

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 Met Ser Ser Gly Gly Leu Leu Leu Leu Leu Gly Leu Leu Thr Leu Trp
 -20 -15 -10

gag gtg ctg acc ccc gtc tcc agc aag gac cgt cca aaa ttc tgt gaa 96

Glu Val Leu Thr Pro Val Ser Ser Lys Asp Arg Pro Lys Phe Cys Glu
 -5 -1 1 5
 ctg ctt cct gac acc gga tca tgt gaa gac ttt acc gga gcc ttc cac 144
 Leu Leu Pro Asp Thr Gly Ser Cys Glu Asp Phe Thr Gly Ala Phe His
 10 15 20
 tac agc aca cgt gat cgt gaa tgc ata gag ttt att tat ggt gga tgc 192
 Tyr Ser Thr Arg Asp Arg Glu Cys Ile Glu Phe Ile Tyr Gly Gly Cys
 25 30 35 40
 gga ggg aat gct aac aat ttt atc acc aaa gag gaa tgc gaa agc acc 240
 Gly Gly Asn Ala Asn Asn Phe Ile Thr Lys Glu Glu Cys Glu Ser Thr
 45 50 55
 tgt gct gcc tga 252
 Cys Ala Ala
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<210> 24
 <211> 83
 <212> PRT
 <213> Pseudonaja textilis

<400> 24
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 1 5 10 15
 Glu Val Leu Thr Pro Val Ser Ser Lys Asp Arg Pro Lys Phe Cys Glu
 20 25 30
 Leu Leu Pro Asp Thr Gly Ser Cys Glu Asp Phe Thr Gly Ala Phe His
 35 40 45
 Tyr Ser Thr Arg Asp Arg Glu Cys Ile Glu Phe Ile Tyr Gly Gly Cys
 50 55 60
 Gly Gly Asn Ala Asn Asn Phe Ile Thr Lys Glu Glu Cys Glu Ser Thr
 65 70 75 80
 Cys Ala Ala

<210> 25
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 <212> DNA
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<222> (73)..(252)

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Met Ser Ser Gly Gly Leu Leu Leu Leu Leu Gly Leu Leu Thr Leu Trp	
-20 -15 -10	
gag gtg ctg acc ccc gtc tcc agc aag gac cgt cca aag ttc tgt gaa	96
Glu Val Leu Thr Pro Val Ser Ser Lys Asp Arg Pro Lys Phe Cys Glu	
-5 -1 1 5	
ctg cct gct gac atc gga cca tgg gat gac ttt acc gga gcc ttc cac	144
Leu Pro Ala Asp Ile Gly Pro Trp Asp Asp Phe Thr Gly Ala Phe His	
10 15 20	
tac agc cca cgt gaa cat gaa tgc ata gag ttt att tat ggt gga tgc	192
Tyr Ser Pro Arg Glu His Glu Cys Ile Glu Phe Ile Tyr Gly Gly Cys	
25 30 35 40	
aaa ggg aat gct aac aac ttt aat acc caa gag caa tgc gaa agc acc	240
Lys Gly Asn Ala Asn Asn Phe Asn Thr Gln Glu Gln Cys Glu Ser Thr	
45 50 55	
tgt gct gcc tga	252
Cys Ala Ala	
60	

<210> 26

<211> 83

<212> PRT

<213> Pseudonaja textilis

<400> 26

Met Ser Ser Gly Gly Leu Leu Leu Leu Leu Gly Leu Leu Thr Leu Trp	
1 5 10 15	
Glu Val Leu Thr Pro Val Ser Ser Lys Asp Arg Pro Lys Phe Cys Glu	
20 25 30	
Leu Pro Ala Asp Ile Gly Pro Trp Asp Asp Phe Thr Gly Ala Phe His	
35 40 45	
Tyr Ser Pro Arg Glu His Glu Cys Ile Glu Phe Ile Tyr Gly Gly Cys	
50 55 60	
Lys Gly Asn Ala Asn Asn Phe Asn Thr Gln Glu Gln Cys Glu Ser Thr	
65 70 75 80	
Cys Ala Ala	

<210> 27

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:degenerate

sense primer

<400> 27
atgaargaya grcchgaryt ngar

24

<210> 28
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:degenerate
antisense primer

<400> 28
gtrctytcrt gytctytcy

18

<210> 29
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:gene-specific
forward primer for Txln1

<400> 29
atatatggat ccaaggaccg gcctgacttc

30

<210> 30
<211> 31
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:gene-specific
reverse primer for Txln1

<400> 30
aacgggaatt ctcagagcca cacgtgcttt c

31

<210> 31
<211> 32
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:gene-specific
reverse primer for Txln2

<400> 31
aacgggaatt ctcagtagcc acaggtagac tc

32

<210> 32

<211> 45
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:RACE-ready long
 universal reverse primer

 <400> 32
 ctaatacgac tcactatagg gcaagcagtg gtaacaacgc agagt 45

 <210> 33
 <211> 22
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:RACE-ready
 short universal reverse primer

 <400> 33
 ctaatacgac tcactatagg gc 22

 <210> 34
 <211> 23
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:RACE-ready
 nested universal reverse primer

 <400> 34
 aagcagtggg aacaacgcag agt 23

 <210> 35
 <211> 24
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:Txln1-gene
 specific forward primer

 <400> 35
 atcagcggat ccatgtctgg aggt 24

 <210> 36
 <211> 27
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:Txln1
 gene-specific reverse primer

<400> 36
tctcctgaat tctcaggcag cacaggt 27

<210> 37
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Txln-active
peptide sequence forward primer

<400> 37
attataggat ccaaggaccg tccggat 27

<210> 38
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:gene-specific
forward primer for txln2

<400> 38
attataggat ccaaggaccg tccagag 27

<210> 39
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:gene-specific
forward primer for Txln3

<400> 39
aacgtcggat ccaaggaccg tccaaat 27

<210> 40
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:gene-specific
forward primer for Txln4

<400> 40
aacgtcggat ccaaggacca tccaaaa 27

<210> 41
<211> 27


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<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:gene-specific
        forward primer for Txln5

<400> 41
aacgtcggat tcaaggaccg tccaaaaa                                27

<210> 42
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:gene-specific
        forward primer for Txln6

<400> 42
attgtcggat ccaaggacct gccaaaag                                27

<210> 43
<211> 408
<212> DNA
<213> Pseudonaja textilis

<220>
<221> CDS
<222> (12)..(191)

<220>
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<222> (12)..(83)

<220>
<221> mat_peptide
<222> (84)..(191)

<400> 43
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          Met Ser Ser Gly Gly Leu Leu Leu Leu Gly Leu Leu
                    -20                                -15

acc ctc tgg gag gtg ctg acc ccc gtc tcc agc aag gac cgt cca gag 98
Thr Leu Trp Glu Val Leu Thr Pro Val Ser Ser Lys Asp Arg Pro Glu
-10                    -5                    -1    1                    5

ttg tgt gaa ctg cct cct gac acc gga cca tgt aga gtc aga tcc cca 146
Leu Cys Glu Leu Pro Pro Asp Thr Gly Pro Cys Arg Val Arg Ser Pro
          10                    15                    20

tcc ttc tac tac aac cca gat gaa caa aaa tgc cta gag ttt att 191
Ser Phe Tyr Tyr Asn Pro Asp Glu Gln Lys Cys Leu Glu Phe Ile
          25                    30                    35

tatggtggat gcgaagggaa tgctaaccaa ttttatcacc aaagaggaat gcgaaagcac 251

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408

<400> 44

-20

-15

-10

-5

-1

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15

20

25

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35